DOCUMENT RESUME

ED 224 061 CS 504 039

AUTHOR Hughey, Jim D.
TITLE Predictive Accuracy and Communicative Responsiveness: Outcomes of an Interpersonal Communication Course.
PUB DATE Nov 82
NOTE 34p.; Paper presented at the Annual Meeting of the Speech Communication Association (68th, Louisville, KY, November 4-7, 1982).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Communication Research; *Communication Skills; Higher Education; *Interpersonal Communication; *Interpersonal Relationship; *Prediction; *Responses; Sex Differences; Speech Instruction
IDENTIFIERS *Flexible Response (Communication)

ABSTRACT

A study examined the relationship between changes in a person's mode of responsiveness during an interpersonal communication course and his or her ability to predict the behavior of others. First an instrument to identify flexible-responsive individuals was developed. Over a period of 7 years, 163 subjects, undergraduates in a beginning interpersonal communication course, completed all phases of the project. Analysis of flexible-response scores at the beginning and end of the course indicated that the students did become significantly more flexible-responsive. Although each measure of predictive accuracy was significantly related to one or more of the independent variables, the magnitude of the relationship was low. Still, these results do provide empirical support for a connection between communication behavior and ability to predict the behavior of others. Theoretical reasons for this connection include (1) the premise that communication is the primary method people use to come to know each other, (2) insights from communication theory that stress appropriate behaviors and interpersonal perception, and (3) the relationship between a person's general sensitivity to people and predictive skill. These results also support the notion that interpersonal communication courses can have measureable outcomes. Finally, the sex of the predictor does not make a difference, but the sex makeup of the dyad does appear to influence forecasting ability. (Tables of results are included.) (JL)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED224061

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Jim D. Hughey
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ABSTRACT

PREDICTIVE ACCURACY AND COMMUNICATIVE RESPONSIVENESS: OUTCOMES OF AN INTERPERSONAL COMMUNICATION COURSE

Jim D. Hughey
Oklahoma State University

This paper examines the relationship between a person's mode of responsiveness as a communicator and his/her ability to predict accurately the behavior of others. The context for the examination is the introductory course in interpersonal communication. The paper contends that changes toward a flexible-responsive communication style that occur during an interpersonal communication course are related to a person's ability to predict. Based upon data collected over a seven year period it is contended that improved predictive accuracy can be one of the outcomes of a course in interpersonal communication.

Mr. Hughey is a Professor and Head of the Department of Speech Communication at Oklahoma State University. He is deeply grateful to Jane Roberts, William Patrick Neal, and John Robert Evans for their contributions to the methodological foundations of this study. Also, appreciation is expressed for the research support provided by the College of Arts and Sciences at Oklahoma State University.

CS504039

# PREDICTIVE ACCURACY AND COMMUNICATIVE RESPONSIVENESS: OUTCOMES OF AN INTERPERSONAL COMMUNICATION COURSE

In his pioneering book, John Keltner made sensitivity to other people the first of seven binding elements of speech communication events.[1] He stressed that an effective interpersonal relationship is dependent, in part, on the abilities of the parties to the relationship to predict accurately the behavior of each other. Later, Gerald Miller and Mark Steinberg proposed that making psychological predictions about the other is the essence of the interpersonal relationship and, hence, interpersonal communication.[2]

In essence the desirable qualities for the interpersonal communicator advocated by Keltner and others seem to cluster around flexibility and responsiveness. Throughout his discussion of the central binding elements of communication, Keltner stressed the desire and willingness to become involved or engaged in interactions, the ability to identify and recognize responses and perceptions, and the readiness to create messages and to respond to the messages of others.[3] Steinberg and Miller described the responsive communicator as an understander.[4] They contrasted the understander with the controller: "All of us are acquainted with some understanders (we sometimes call them 'empathizers,' 'sympathizers,' or just 'good friends') and some controllers (we know them as 'operators,' 'manipulators,' or perhaps most pejoratively, 'con artists')."[5] Richard Johannesen described the dialogical communication event with these terms: genuineness, accurate empathic understanding, unconditional positive regard, presentness, spirit of mutual equality, and supportive psychological climate.[6] Roderick Hart and Don Burks

in their discussion of rhetorical sensitivity emphasized adaptability and coherent transmission.[7] In their words: "The rhetorically sensitive person, then, (1) tries to accept role-taking as part of the human condition, (2) attempts to avoid stylized verbal behavior, (3) is characteristically willing to undergo the strain of adaptation, (4) seeks to distinguish between all information and information acceptable for communication, and (5) tries to understand that an idea can be rendered in multi-form ways."[8] In addition to the sources cited above, William Haney has documented the importance of listening empathically and coping actively with barriers to interpersonal communication.[9]

It seemed reasonable to conclude that the more flexible-responsive communicator would do a better job of predicting the behavior of others than the less flexible-responsive communicator. However, the attempt of Ronald Smith to substantiate a relationship between communicative behavior and predictive ability in an industrial setting was not successful.[10] And the more recent research of Clarence Mix,[11] Robert Ross,[12] and Peter Northouse[13] found that "the presence of threat in interpersonal communicative encounters may be associated with higher levels of interpersonal understanding (defined in terms of one person's ability to accurately predict attitudes, preferences, or sentiments in another)."[14] Was it possible that the interpersonal course that extolled the virtues of the flexible-responsive mode of communication was actually antithetical to enhanced predictive accuracy?

Arthur Bochner and Clifford Kelly thought otherwise. In their article setting out a conceptual framework for the interpersonal course they not only believed that a "heightened sensitivity to the needs and values of other people" should be one of the measurable outcomes of an interpersonal course, but also advocated a flexible-responsive mode of communication.[15] They stressed that the interpersonal course should develop skills in empathy,

descriptiveness, owning, self-disclosure, and behavioral flexibility. They also issued the following challenge: "The degree to which empathic communicative skill can be taught is an important empirical question which should attract the immediate attention of communication researchers."[16]

This study was undertaken to examine the nature of the relationship between changes in a person's mode of responsiveness during an interpersonal course and predictive accuracy. The remainder of this paper considers the way we chose to operationalize the flexible-responsive pattern of communication and predictive accuracy along with consideration of some of the issues involved with measuring predictive accuracy. An examination of multiple regression models generated in the study and a discussion of the results conclude the paper.

## Preliminary Considerations: Measuring the Flexible-Responsive Pattern of Communication

In order to test this relationship it was necessary to devise a way of differentiating between more and less flexible-responsive individual and a way of measuring predictive accuracy.

The flexible-responsive mode of communication was operationalized by the development of a paper and pencil instrument called the Conversation Self Report Inventory (CSRI). A functional mode of test construction, where there is maximum interaction between empirical data and theory, was used in building the CSRI.[17] Initially, several statements describing the characteristics of interpersonal speakers-listeners were collected from more than 100 people, including undergraduate and graduate students, professors, and lay people. Each statement was checked against the theoretical basis laid out in

Keltner and other sources. Statements with a basis in theory were retained, and the resulting 500 statements were checked for duplications. The 260 surviving items were submitted to a panel of 100 judges, including students and professors, who rated the statements according to their degree of communication responsiveness.[18] These same statements were also presented to 370 college students for the purpose of establishing the social desirability of each statement.[19] Those statements meeting the requirements of theory, judged responsiveness, and social desirability were grouped together.[20] This procedure produced a sixty-item, forced-choice test with each item having four alternatives.[21] Since its original formulation, the CSRI has undergone several revisions.[22] The various versions of the inventory have been administered to more than 10,000 individuals and have proven to be reliable and valid measures of communication patterns.[23]

In a nutshell, work with the CSRI has suggested that more flexible-responsive individuals differ from less flexible-responsive individuals in six major respects: (1) the way they view the purpose of communication, (2) the communicative climate they create, (3) the way they transmit information, (4) the way they receive information, (5) the way they sequence messages, and (6) the way they cope with communication barriers.[24] High flexible-responsive individuals view understanding as the goal of interpersonal encounters, work actively to create a favorable communicative climate, adapt their transmissions to others, listen empathically, sequence their messages in an adaptive but coherent way, and cope actively with communication barriers. Low flexible-responsive individuals view influence as the goal of interpersonal encounters, are either aggressive or apathetic in encounters, are self-centered in their transmissions, pretend to listen, sequence their messages in a rigid or incoherent way, and either ignore or are not aware of communication barriers in an encounter.

## Preliminary Considerations: Measuring Predictive Accuracy

Early research referred to the ability to predict in a variety of ways, including "insight."[25] More recently, the more denotative term "predictive skill" has been used. Bronfenbrenner, Harding, and Gallwey defined predictive skill as "the ability to forecast actions or psychological states that are not being directly observed."[26] They concluded that predictive skill is one of the central factors in social perception.[27] Later researchers reaffirmed this conclusion in their study of person perception and interpersonal perception.[28]

As suggested earlier, linking communication behavior with predictive accuracy has been easier to do theoretically than empirically. With Smith finding no significant relationship and Mix, Ross, and Northouse suggesting that low flexible-responsives exhibit greater predictive accuracy,[29] it is important to examine an early study where we found flexible-responsives to be better predictors.

In our early attempts to validate the CSRI, Jane Roberts was the first to use the CSRI to study the relationship between communication responsiveness and predictive skill.[30] In her investigation, she controlled gender by using only female subjects belonging to a social sorority on a university campus.[31] She used procedures similar to those described by Crowdhry and Newcomb for operationalizing predictive skill.[32] Each of the thirty members of the sorority responded to fifteen items taken from the Allport-Vernon-Lindzey Study of Values.[33] First, each subject responded to the items in terms of her own personality. Second, the subject chose four other members of the sorority, two that she knew very well and two she knew less well. Third, the subject responded to the items in the way she believed each of the

chosen members would respond. The subject indicated how long she had known each of the four chosen members. The level of predictive skill for a subject was determined by counting the total number of correct predictions and dividing by four to determine the mean. A correct prediction occurred when the subject's predicted response to an item for a chosen member was the same as a chosen member's own response to the item.

After the subjects had responded to a sixty-item version of the CSRI,[34] Roberts submitted the data to a 2 x 2 Analysis of Variance[35] where factor A was self-report communication responsiveness, factor B was the length of time the subjects had known the four chosen members, and the dependent variable was predictive skill. Factor A was partitioned into condition $A_1$ (High Flexible-Responsives) and condition $A_2$ (Low Flexible-Responsives) by dividing the distribution of CSRI scores at the median. Factor B was partitioned into condition $B_1$ (long acquaintanceship) and $B_2$ (short acquaintanceship) by dividing at the median the estimates of the subjects of how long they had known their four chosen members.

The results of her study are summarized in the following table.

---

Insert TABLE I here

---

Roberts concluded that communication responsiveness, as measured by the CSRI, was related to predictive skill.[36] She also concluded that length of acquaintanceship did not play a significant role in predicting the behavior of others with the particular sample she used.[37]

Compared with the approach used by Smith, Ross, Mix, and Northouse, there were some major differences in the approach Roberts used. First, Smith et al., used the dyad as the focus of their studies. The dyad focus meant that the estimate of predictive accuracy for a given individual was based on n = 1. Roberts based her estimate on n = 4; each individual predicted how four other persons would respond. Presumably the average of four predictions would be more reliable (all other things being equal) than a single prediction.

In the Smith et al., studies, the problem of predictions involving individuals with an extensive history of interaction was controlled for by the use of the "Empathy Ratio Score" (ERS) measure. The work of C. W. Hobart and Nancy Fahlberg suggest that people who interact frequently with each other have some similar attitudes and behaviors.[38] To the extent that person A figures that person B is similar to him/herself and to the extent that person A bases his/her prediction on person A's attitudes/behaviors, the assumption of similarity tends to inflate the prediction score for person A. In other words, Hobart and Fahlberg found a significant positive correlation between a person's raw prediction score and the degree of similarity between person A and B. Hobart and Fahlberg proposed that the ERS was the appropriate measure of predictive accuracy for people who have a significant history of interacting with each other. The ERS is defined as the number of correct predictions a subject makes of his/her partner's dissimilar responses divided by the number of statements on which the subject and his/her partner have dissimilar responses. Thus instead of using the ERS to control for the "likeness" bias

of the subjects, Roberts dealt with the issue in two ways: (1) two of the four predictees were well known to the predictor, and two were less known to the predictor; (2) overall length of acquaintanceship was used as an independent variable in her design.

## The Main Study

With the positive results from using the CSRI in hand, we focused our attention on the interpersonal communication course and its outcomes. We were looking for the answers to two questions: (1) Do students in an interpersonal course change toward a more flexible responsive mode? (2) If so, do those who change exhibit greater predictive skill than those who do not change?

In order to control for the similarity bias explained above, it was decided to use dyads with a limited history of interaction. In order to compensate for the presumed greater reliability of using four estimates of predictive accuracy rather than one, it was decided to examine a relative large number of predictors (at least 100). (Also, having a large number of predictors would be especially important because some dyads would be same-sex dyads and some would be mixed sex dyads.)

In addition, it was decided to obtain an estimate of predictive accuracy through the use of the ERS as well as two other measures (the compounded ratio score [CRS] and the composite ration score [COMPRS]). Since we were dealing with limited-history dyads, we felt it was appropriate to not only gain an

estimate of accurate predictions of differences (ERS), but also accurate predictions of similarities (CRS) and an overall estimate of predictive accuracy (ERS + CRS = COMPRS).

## Operational Definitions

The dependent variable, predictive skill, was operationalized in the following manner. Toward the end of an interpersonal communication course, students who did not know each other well were paired together and asked to get to know each other as well as possible.[39] The dyads were formed through random assignment of individuals.[40] Each dyad had at least 75 minutes to converse with each other.[41] After getting acquainted, each subject was asked to respond to the first thirty items of the Allport-Vernon-Lindzey Study of Values.[42] Numerous studies have established the validity and reliability of the Study of Values.[43] This widely-used paper and pencil instrument measures the relative strength of six motives in the human personality system: the aesthetic, theoretical, political, religious, economic, and social motives.[44] The subject was asked to respond first in terms of his/her own value system and second in terms of how he/she believed his/her partner would respond. Three measures of predictive skill were obtained: the empathy ratio score (ERS), the compounded ratio score (CRS), and the composite ratio score (COMPRS). The ERS was defined as the number of correct predictions a S makes of his/her partner's dissimilar responses divided by the number of statements on which the S and his/her partner have dissimilar responses. The CRS was defined as the number of correct predictions a S makes of his/her partner's similar responses divided by the number of statements on which the S and his/her partner have similar responses. The COMPRS was defined as the ERS plus the CRS.

This procedure for operationalizing predictive skill deviated from Robert's procedure in three significant respects. Instead of dealing with subjects who interacted frequently in both a social group and dyadic settings, only dyads composed of subjects who did not know each other well were used. This procedure held the length and degree of acquaintanceship relatively constant and allowed for a more precise focus on making predictions within the dyadic relationship. Also, instead of estimating predictive skill through four, 15-item sets of predictions, predictive skill was estimated by one, 30-item set of predictions made by each partner in the dyad. In addition, rather than using the total number of correct predictions as the measure of predictive skill, the ERS, CRS, and COMPRS were used. Essentially the ERS estimates how well a person can predict the differences between the self and others; the CRS estimates how well a person can predict the similarities between self and others; and the COMPRS estimates the overall predictive ability of the individual.

Two broad types of independent variables were entered into the multiple regression procedure. The first class of variables had to do with the communicative responsiveness of the subjects.

1. The pre CSRI. On the first day of class, each student responded to a 40 item version of the CSRI. A high score indicated high flexible responsiveness; a low score indicated low flexible responsiveness.

2. The post CORI. Because the interpersonal course concerned the communication behavior of the student, it was felt that the post test measure should be made by independent observers rather than the student him/herself. By the end of the course, the student might be prone to report what his/her behavior should be rather than what it is. Thus the Conversation Other Report Inventory was constructed. Twenty items from the inventory were recast from

a self-report format to a format allowing outside observers to describe the conversational behavior of the subject.[45] The items thus formed were grouped together in an instrument called the Conversation Other-Report Inventory (CORI). During the last weeks of the course, each subject that had responded to the predictive skill measure was instructed to interview five students enrolled in another lower-division speech communication course.[46] Two restrictions were placed on the interviews. First, the subjects were instructed to choose interviewees they did not know personally. Second, the interviews were restricted to information-giving interviews where the subject described his/her college major to the interviewee.[47] Although there was no specified time limit for the interviews, subjects reported that the interviews lasted typically from ten to twenty minutes. After each interview the subject asked the interviewee to respond to the twenty item CORI. The scores on the CORI from the five interviews were averaged for each subject, and this mean score became the subject's other-report responsiveness score. Evans found that the mean other-report score obtained in this manner correlates highly with an individual's self-report score.[48]

3. The DIFFR. After the pre CSRI and post CORI scores were normalized through a Z-transformation, scores were subtracted to produce the difference score. A positive score indicated that the student had a higher flexible responsive score at the end of the course than at the beginning.

4. The prepost. The prepost measure was a dummy variable indicating if the post CORI measure was greater than the pre CSRI measure. (1 = the post CORI score is greater than the pre CSRI; 0 = the pre CSRI score is equal to or greater than the post CORI score.)

The second class of variables had to do with the gender of the parties to the relationship. They included variables reflecting the composition of

the dyads that were formed initially to get acquainted and to respond to the predictive skill measure. Dyads were formed where a male predicted a male's behavior, a female predicted a male's behavior, a female predicted a female's behavior, and a male predicted a female's behavior. More specifically, six dummy variables were created.

1. The sex of person (Female = 0; Male = 1).
2. The SEXDYAD. (Same sex dyads = 0; mixed sex dyads = 1).
3. The male-male dyad (male-male = 1; non male-male = 0).
4. The female-male dyad (fem-male = 1; non fem-male = 0).
5. The female-female dyad (fem-fem = 1; non fem-fem = 0).
6. The male-female dyad (male-fem = 1; non male-fem = 0).

## Sample and Research Design

Undergraduate students enrolled in a beginning interpersonal communication course served as subjects.[49] The course was designed in such a way that the measurement of predictive skill and other-report sensitivity was a normal part of the course. Between the fall of 1971 and the spring of 1977, the course was offered seven times under the same instructor. Data on predictive skill, communication responsiveness, and gender were collected from students enrolled in the course over this period of time in order to obtain a sufficient n for the study.[50]

A total of 163 subjects completed all phases of the project. The sample was composed of 55% males and 45% females. Approximately 2/3 of the sample had had no previous exposure to interpersonal communication in their prior course work; about 1/3 of the sample were recently declared speech communication majors with one previous survey course in general speech communication. Approximately 1/2 of the subjects were lower division students (freshmen or

sophomores) and 1/2 were upper division students (juniors or seniors). Over 95% of the sample came from the college of Arts and Sciences and college of Education.

The interpersonal course emphasized the experential approach to learning. In all the student participated in five projects. The first project was a role playing exercise followed by written analysis of perceptions and feelings. In the second project, the student observed the interactions that took place in the basic introductory course for a specified number of periods. A written report differentiating what was observed, inferred, and judged was the outcome. The third project involved an extensive self analysis of communicative assets and liabilities. The fourth project involved the design of an interview protocol, the conducting of an interview, and the prediction of behavior based on the interview (the prediction exercise described above). The fifth involved the outside of class interview that was described above along with a detailed developmental analysis of the student's communicative behavior. Two examinations were given during the course. The Keltner book was used five of the seven times the course was taught; the DeVito book was used two times.

Because the data were generated as a normal part of the course, the investigation was classified as field study.[51] A multiple regression, stepwise procedure was used in the study.[52] For a variable to be entered into an equation, the simple r for that variable had to be significant beyond the .05 level of confidence.

## The Results

Judged by the difference between flexible-responsive scores received when the students first entered the course and the scores received when the

students interviewed the five strangers, students became significantly more flexible-responsive during the course (pre CSRI $\bar{X}$ = 19.089; post CORI $\bar{X}$ = 21.613; standard error = .2468; t = 10.2249 significant beyond the .001 level).

To assess whether or not various measures of predictive skill covaried with the change toward the flexible-responsive mode, a multiple regression model was produced for each of the dependent variables: the ERS, CRS, and COMPRS. The following three tables summarize the findings.

---

Insert TABLES II, III, IV here

---

The following table of Pearson correlation coefficients indicates the degree of relationship between the dependent and independent variables in the study.

---

Insert TABLE V here

---

These results indicate that each measure of predictive accuracy was significantly related to one or more of the independent variables. However in each case, the magnitude of the relationship was low. Only from about 3 to 10 percent of the variance was accounted for in the dependent measures.

The only significant variable that covaried with the ERS was the gender make-up of the dyad. Mixed sex dyads did a better job of accurately predicting differences than same sex dyads. More specifically, female-male dyads did the best job of predicting and male-male dyads did the worst job. Although none of the communication variables entered the regression equation, Table V suggests the DIFFR variable (changes toward the flexible-responsive mode) was the second highest correlation for the ERS variable (.140).

Two variables explained 5.6% of the variance for the CRS variable. The

Prepost measure (a dummy variable indicating if the change was toward the flexible-responsive mode) and the male-female dyad variable contributed significantly to a person's ability to accurately predict similarities. Again the mixed sex dyad did a better job of predicting.

The greatest amount of variance (9.8%) was explained for the composite estimate of accuracy by the DIFFR variable (the amount of change toward the flexible-responsive mode) and the male-male dyad variable. The negative relationship for the male-male dyad indicates that mixed-sex dyads did a better job of predicting.

## Discussion

Although the magnitude of the relationship is low, the results of the pilot and main study provide empirical support for a connection between a person's communication behavior and his/her ability to forecast the behavior of others. The results strengthen the conclusion implied by theory that communication responsiveness is a significant factor in person perception. More specifically, high responsiveness to verbal and nonverbal messages enhances the predictive skill of an individual.

There were theoretical reasons to believe that communication responsiveness, as operationalized by the CSRI, should be related to the ability to predict the behavior of others. The first reason was based on the premise that communication is the primary method people use to come to know each other. Shibutani articulated this viewpoint clearly.

> Society exists only in concerted action, and if men who are capable of independent action are to act together as a unit, each must somehow be able to anticipate what his associates are likely to do. Without some appreciation of the intentions of others, cooperation is difficult; but how is such appreciation to be achieved? Direct "mind reading" is apparently impossible; hence men must settle for the best available substitute--the reading of external gestures which are indicative of inner experiences.

> In spite of the numerous possibilities of error, concerted action rests upon this process. Without it cooperation of the kind that characterizes human society is impossible; communication is the touchstone of society.[53]

Because of a greater sensitivity to verbal and nonverbal stimuli, the more flexible-responsive interactant should have the edge over the less flexible-responsive interactant when predicting the behavior of others. The sensitive interactant should be more responsive to Shibutani's "external gestures" and, hence, better able to forecast the intentions of others.

The second reason was based on an implication drawn from communication theory. Theorists have used constructs akin to both communication responsiveness and predictive skill to explain how interpersonal communication works.[54] It is not uncommon for a theorist to describe communication patterns and behaviors appropriate to interpersonal communication and then to emphasize the importance of interpersonal perception in communication. Although the connection between communication behavior and person perception is seldom made explicit, a relationship is implied. It seemed reasonable to make the explicit inference that flexible-responsive communication behavior enhances the ability to predict.

The third reason had to do with the strong case Henry Clay Smith had built for the relationship between a person's general sensitivity to people and predictive skill. As a matter of fact, Smith insisted that the only true test of a person's sensitivity is the person's ability to predict.[55] The fact that the statements in the CSRI had been judged in terms of their sensitivity gave some assurance that the flexible-responsive pattern was a subset of a general sensitivity to people and that communication sensitivity was thus related to predictive skill.

The fact that changes in communication responsiveness registered during a course in interpersonal communication covaried significantly with two out of

three measures of predictive accuracy lends support to the notion that courses in interpersonal communication can have measurable outcomes. The fact that the magnitude of the relationship was low but significant indicates that we should expect subtle rather than dramatic changes in predictive accuracy during a course.

The results of this investigation further suggest that the gender of the parties to a dyadic relationship plays a role in making predictions. However, the gender of the predictor does not appear to make a significant difference. In other words, this study found no evidence that either males or females have an edge when it comes to predicting the behavior of others. Rather, it appears that the gender makeup of the dyad influences forecasting ability.

The speculation we sometimes hear that women are more difficult to predict than men is not supported by the results of this study. To the contrary, two of the three regression models suggest that women are significantly easier to read than men, at least in the six areas tapped by the Allport-Vernon-Lindzey Study of Values. The self-disclosure literature does suggest that the amount and type of information revealed to others is influenced by sex and topic of conversation.[56] Perhaps, women, more so than men, reveal the kind of information that is needed for accurate predictions when getting acquainted in a dyad. Further research is needed to determine if women are generally easier to predict than men or if there are specific areas of behavior where one sex is more predictable than the other.

How do we explain the fact that we found the flexible-responsive pattern of communication to be more important than a threatening pattern whereas others have found the threatening pattern to have greater efficacy? First it should be noted that our study found no significant communication variable operating for the ERS. Given the fact that our dyads had only

limited prior interaction,[57] it is not surprising that the accurate prediction of difference was not related to communication responsiveness. Theory indicates that the early stages of a new relationship are spent in searching for similarities.[58] The studies by Mix, Ross, and Northouse (along with the study by Larsen)[59] dealt with intact dyads with a long history of interaction. Perhaps a flexible-responsive mode of communication is more important in the acquaintance process than in more intimate dyads. Maybe the Marthas of "Who's Afraid of Virginia Wolfe," the screamers and coercers, are better at predicting (coercing those areas of difference out of the other) than flexible-responsive communicators.

The fact that Roberts found the flexible-responsive mode to be helpful in predicting responses of sorority sisters may also be an indication that different ongoing dyads require different patterns of communication. The fact that all of the studies examined in the paper found from low to moderate relationships between communication and predictive accuracy may suggest that diverse patterns of communication may contribute equally well to predictive accuracy.

## Summary

However, it does appear that the interpersonal course stressing a flexible-responsive mode of interpersonal communication fosters changes toward a more flexible-responsible style of communication. Those who change more toward the flexible-responsive mode are better at predicting similarities and at predicting both similarities and differences than those who do not move toward the flexible-responsive mode. Although the magnitude of the relationship appears to be low, the relationship is a significant one.

NOTES

[1]Interpersonal Speech-Communication: Elements and Structures (Belmont, California: Wadsworth Publishing Company, Inc., 1970), 24-39.

[2]Between People: A New Analysis of Interpersonal Communication (Palo Alto, California: Science Research Associates, 1975).

[3]Interpersonal Speech-Communication, 24-39.

[4]"Interpersonal Communication: A Sharing Process," in Communication and Behavior, ed. by Gerhard J. Hanneman and William J. McEwen (Reading, Massachusetts: Addison-Wesley Publishing Company, 1975), 126-148.

[5]Ibid., 134.

[6]"The Emerging Concept of Communication as Dialogue," QJS, 57 (December, 1971), 376. See also: John Poulakos, "The Components of Dialogue," Western Speech, 37 (Summer, 1974), 199-212.

[7]"Rhetorical Sensitivity and Social Interaction," SM, 39 (June, 1972), 75-91.

[8]Ibid., 76.

[9]Communication and Organizational Behavior: Texts and Cases (Homewood, Ill.: Richard D. Irwin, Inc., 1967).

[10]"Communication Correlates of Interpersonal Sensitivity Among Industrial Supervisors" (Unpublished Ph.D. dissertation, Purdue University, 1967).

[11]"Interpersonal Communication Patterns, Personal Values, and Predictive Accuracy" (Unpublished Ph.D. dissertation, University of Denver, 1972).

[12]"Perceived Communication Patterns and Predictive Accuracy of Supervisor-Subordinate Dyads" (Unpublished Ph.D. dissertation, University of Denver, 1973).

[13]"Predictors of Empathic Ability in Organizational Settings: A Research Note," Human Communication Research, 3 (1977), 176-178.

[14]Frank E. X. Dance and Carl E. Larsen, The Functions of Human Communication: A Theoretical Approach (New York: Holt, Rinehart, and Winston, 1976), 120.

[15]"Interpersonal Competence: Rationale, Philosophy, and Implementation of a Conceptual Framework," Speech Teacher, 23 (1974), 279-301. Compare with DeVito's view that training does not improve predictive accuracy: Joseph DeVito, The Interpersonal Communication Book (New York: Harper & Row, Publishers, 1976), 198.

[16]Bochner and Kelly, 290.

[17]The functional mode as it applies to theory construction is described by Melvin H. Marx, "The General Nature of Theory Construction," in Theories in Contemporary Psychology, ed. by Melvin H. Marx (New York: The Macmillan Company, 1963), 16-17. The functional mode of test construction is the mirror image of the functional mode of theory construction; The theoretical foundations and development of the initial version of the CSRI are described by Neal, chapters 1, 2, and 3; See William Patrick Neal, "Demographic, Personality and Nonverbal Perception Correlates of Communication Sensitivity" (Unpublished M.A. thesis, The University of New Mexico, 1970); Patricia T. Tucker, "The Relationship Between Communication Sensitivity and Selected Types of Aggression" (Unpublished Ed.D. dissertation, Oklahoma State University, 1977); John Robert Evans, "A Study of the Relationship Between Communication Sensitivity and Conversational Effectiveness Within a Physical Education Setting" (Unpublished Ed.D. dissertation, The University of New Mexico, 1970); Larry Paul Glidewell, "Managerial Styles and Communication Sensitivity" (Unpublished M.S. thesis, Oklahoma State University, 1975); Robert E. Hall, "An Investigation of the Relationship Between Transactional Analysis Ego Grams, Communication Sensitivity, and Managerial Types in a Business Organization" (Unpublished manuscript, Department of Speech Communication,

Oklahoma State University, 1974); John A. Kline and Marilyn J. VanGraber, "Some Language Correlates of Communicator Sensitivity" (Paper read at the SCA Convention, Chicago, Illinois, December 28, 1972); Anchalee Tunsagul Leesavan, "Cultural Differences in Communication Patterns: A Comparison of Thais and Americans" (Unpublished Ed.D. dissertation, Oklahoma State University, 1977); Gracelyn E. McCulloh, "The Relationship of Communication Sensitivity, Adherence to Norms, and Parent-Adolescent-Peer Communication" (Unpublished manuscript, Department of Speech Communication, Oklahoma State University, 1973); Deborah L. Wilson, "A Study of the Relationship Between Violence Proneness and Communication" (Unpublished manuscript, Department of Speech Communication, Oklahoma State University, 1974).

[18]Each statement was rated by the judges on a nine-point continuum with 1 representing "This statement is very characteristic of the communication of a sensitive speaker-listener in a conversation" and 9 representing "This statement is very characteristic of the communication of an insensitive speaker-listener in a conversation." Thurstone scale-construction procedures were followed. See A. L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century-Crofts, Inc., 1957), 130-171.

[19]Each student indicated how characteristic each statement was of his/her own communication behavior on a nine-point scale with 1 representing "This statement is extremely characteristic of me" and 9 representing "This statement is extremely uncharacteristic of me." The mean score for each item was used as an index of social desirability. Ibid.

[20]For this initial version of the CSRI, a grouping had to contain one statement supported by theory as a significant asset in interpersonal communication as judged by the panel. All other statements in the grouping had to be either

theoretically irrelevant or a liability in interpersonal communication as judged by the panel. At least one of the statements in the grouping had to have a social desirability rating comparable to the rating of the flexible-responsive statement.

[21]The test-taker was asked to choose the one alternative for each item that was most characteristic of his/her actual communication behavior. Here is an item used in the CSRI:

In most conversations:

1. I look around alot.
2. I use quite a bit of slang.
3. My posture is very relaxed.
4. I am eager to listen.

The forced-choice format was used to control response set and social desirability. See Fred N. Kerlinger, Foundations of Behavioral Research, 2nd ed. (New York: Holt, Rinehart, and Winston, Inc., 1973), 506-508.

[22]Item analysis and a re-evaluation of items in terms of current sources of interpersonal communication theory changed some alternatives, modified the groupings of some alternatives for items, and reduced the total number of items. Forms 369 and 369A/reivsed of the CSRI had 60 items. Form 1169L had 50 items. Subsequent forms have had 40 items. The item analysis procedures used in the revisions are described by N. M. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper and Brothers, Publishers, 1959), 201-205. The alpha level of the discrimination index of the items was set at .01 in all cases.

[23]Neal, p. 69, found Kuder-Richardson-20 reliability estimates ranging from .75 to .83 ($p < .01$) for two versions of the CSRI; he reported a split-half correlation of $\underline{r} = .73$ ($p < .01$) and a test-retest correlation of $\underline{r} = .77$ ($p < .01$) for form 1169L. The most recent review of the studies

establishing the content, criterion-related, and construct validity is found in Leesavan, pp. 19-22.

[24]For a full discussion of these six areas of difference, see Jim D. Hughey and Arlee W. Johnson, Speech Communication: Foundations and Challenges (New York: Macmillan Publishing Co., Inc., 1975), 381-389.

[25]Insight, as a research variable, has a long history. Early attempts to study the variable are described in the following: George H. Green, "Insight and Group Adjustment," Journal of Abnormal and Social Psychology, 43 (1948), 49-61; Ralph D. Norman, "The Interrelationships Among Acceptance-Rejection, Self-Other Identity, Insight into Self and Realistic Perception of Others," The Journal of Social Psychology, 37 (1953), 205-235; N. L. Gage and Ralph V. Exline, "Social Perception and Effectiveness in Discussion Groups," Human Relations, 5-6 (1952-53), 381-396. Also, "the ability to predict the behavior of others" has been used in conceptualizing interpersonal sensitivity, empathy, social perception, interpersonal perception, and person perception. In addition to Cook and Tagiuri, see Urie Bronfenbrenner, John Harding, and Mary Gallwey, "The Measurement of Skill in Social Perception," in Talent and Society, ed. by David C. McClelland, Alfred L. Baldwin, Urie Bronfenbrenner, and Fred L. Strodtbeck (New York: D. Van Nostrand Company, Inc., 1958).

[26]Ibid., 97.

[27]Ibid.

[28]Albert Hastorf, David Schneider, and Judith Polefka, Person Perception (Reading, Mass.: Addison-Wesley Publishing Company, 1970).

[29]See endnotes 10-13.

[30]Jane Roberts, "An Investigation of the Relationship of Communication Behavior and Insight" (Unpublished manuscript, Department of Speech Communication, The University of New Mexico, 1969).

[31]The sorority was located on the University of New Mexico campus.

[32]Kamla Crowdhry and Theodore M. Newcomb, "The Relative Abilities of Leaders to Estimate Opinions of Their Own Groups," Journal of Abnormal and Social Psychology, 46 (1952), 51-57.

[33]Gordon Allport, Philip Vernon, and Gardner Lindzey, Study of Values, 3rd ed. (Boston: Houghton Mifflin Co., 1960).

[34]She used form 369A/revised.

[35]She used Winer's p x q model for unequal cell frequencies. B. J. Winer, Statistical Principles in Experimental Design (New York: McGraw-Hill Book Company, 1962), 241-244. The cell frequencies were $A_1B_1 = 11$, $A_1B_2 = 4$, $A_2B_1 = 6$, $A_2B_2 = 9$.

[36]Roberts, 22.

[37]Ibid., 25.

[38]"The Measurement of Empathy," American Journal of Sociology, 70 (1965), 595-603.

[39]The students were enrolled in Processes of Speech Communication at Oklahoma State University. About halfway through the course, students were asked to list the five people in the class they knew very well and the five people they least well. Dyads were formed from the least-known listings. Each member of each dyad had indicated that the other member was unknown to him/her. Because the first half of the course dealt with out-of-class projects with individuals not enrolled in the class, it was not difficult to form dyads composed of individuals who were relatively unknown to each other.

[40]The only restriction in forming the dyads was the acquaintanceship requirement. The composition of the dyads in terms of gender was determined by a table of random numbers.

[41]One 75 minute class period was set aside for the get-acquainted session. No restrictions were placed on continued out-of-class transactions. It was felt that an individual's decision to either continue or not continue transactions was reflective of his/her communication responsiveness. Thus outside of class transactions were neither encouraged nor discouraged.

[42]The students responded to the Study of Values at the next class meeting or 48 hours later.

[43]Gordon W. Allport, Philip E. Vernon, and Gardner Lindzey, Manual: Study of Values, 3rd ed. (Boston: Houghton Mifflin Company, 1960).

[44]Ibid.

[45]For the example cited in footnote 17, the transformed item read:

In the conversation:

1. the person looked around alot.
2. the person used quite a bit of slang.
3. the person's posture was very relaxed.
4. the person was eager to listen.

[46]The course was Introduction to Speech Communication, a multiple section, large enrollment (approximately 900 students per semester), general communication course.

[47]The topic of the interview was standardized to control the interestingness of what was talked about.

[48]Evans, p. 85, found a Spearman Rho coefficient of .71 ($p > .001$) between the CSRI and the CORI, using five strangers to estimate other-report sensitivity. (Evans referred to the CORI as the CIP--Conversation Interaction Patterns.)

[49]The course, Processes of Speech Communication, typically enrolled between 18 and 30 students each time it was offered. The catalog described the course as: "A Study of basic processes of human communication and the theoretical and

practical implications of these processes for various levels of communicative interaction. Individual and group projects emphasizing the inputting, processing, and outputting of information."

[50]Preliminary $F_{max}$ tests on the data did not exceed the .05 level, indicating that the data from the various testings could be pooled. The $F_{max}$ procedures for unequal n are described by Winer, pp. 92-94.

[51]This classification was based on the criteria suggested by Redding. W. Charles Redding, "Research Setting: Field Studies" in Methods of Research in Communication, ed. by Philip Emmert and William D. Brooks (Boston: Houghton Mifflin Company, 1970), 105-159.

[52]The data were analyzed using a stepwise multiple regression program from the Statistical Package for the Social Sciences (SPSS). See Norman Nie et al., SPSS: Statistical Package for the Social Sciences, 2nd ed. (New York: McGraw-Hill Book Company, 1975), 320-367.

[53]Tamotsu Shibutani, Society and Personality (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1961), 139-140.

[54]For example, DeVito describes the characteristics of effective interpersonal communication as openness, empathy, positiveness, equality, and supportiveness. See also endnotes 1-9.

[55]Sensitivity to People (New York: McGraw-Hill Book Co., 1966), 4.

[56]See Sidney M. Jourard, The Transparent Self (New York: Reinhold, 1971); W. Barnett Pearce and Steward M. Sharp, "Self-Disclosing Communication," Journal of Communication, 23 (December 1973), 409-425; and DeVito, pp. 95-97.

[57]Sorensen and McCroskey pointed out that the results from studies using intact groups might differ significantly from groups having zero history. See Gail Sorensen and James C. McCroskey, "The Prediction of Interaction Behavior in Small Groups: Zero History Versus Intact Groups," CM, 44 (March, 1977), 74-80.

[58]See, for instance, Charles Berger and Richard Calabrese, "Some Explorations in Initial Interaction and Beyond: Toward A Developmental Theory of Interpersonal Communication," Human Communication Research, 1 (1975), 99-112.

[59]See endnotes 10-14.

Table I. The effects of flexible-responsiveness and length of acquaintanceship on predictive skill.

| Analysis of Variance | | | | | Prediction Means** | | |
|---|---|---|---|---|---|---|---|
| Source of Variation | df | SS | MS | F | | $B_1$ | $B_2$ |
| A (Communication Responsiveness) | 1 | 7.35 | 7.35 | 7.35* | $A_1$ | 9.74 | 9.41 |
| B (Length of Acquaintanceship) | 1 | .00 | .00 | .00 | $A_2$ | 8.38 | 8.64 |
| A x B | 1 | .58 | .58 | .58 | $\bar{n}_h$ (harmonic mean of cell frequencies) = 6.47 | | |
| Within cell | 26 | 26.08 | 1.00 | | | | |

*significant beyond the .05 level.

**The possible range of scores was 0-15. The observed range was 5-12.

Table II. ERS as the dependent variable.

Variable entered on step number 1. SEXDYAD ($R = .1694$; $R^2 = .0287$)

Analysis of Variance

| | DF | Sum of Squares | Mean Square | F | SIGNIF |
|---|---|---|---|---|---|
| Regression | 1 | 2195.2671 | 2195.2671 | 4.7583 | .0306 |
| Residual | 161 | 74277.2359 | 461.3492 | | |

Variables in the Equation

| Variable | B | SE B | BETA | T | SIG T |
|---|---|---|---|---|---|
| SEXDYAD | 7.3631 | 3.3754 | 0.1694 | 2.181 | 0.0306 |
| (Constant) | 36.1936 | 5.2078 | | 6.950 | 0.0000 |

Table III. CRS as the dependent variable.

Variable entered on step number 1. Prepost ($R = .1766$; $R^2 = .0312$)

Variable entered on step number 2. Male-Female ($R = .2370$; $R^2 = .0561$)

Analysis of Variance

| | DF | Sum of Squares | Mean Square | F | SIGNIF |
|---|---|---|---|---|---|
| Regression | 2 | 2045.6036 | 1022.8018 | 4.7617 | .0098 |
| Residual | 160 | 34367.5374 | 214.7971 | | |

Variables in the Equation

| Variable | B | SE B | BETA | T | SIG T |
|---|---|---|---|---|---|
| Prepost | 4.9945 | 2.3105 | 0.1663 | 2.162 | 0.0321 |
| Male-Female | 5.6510 | 2.7462 | 0.1583 | 2.058 | 0.0412 |
| (Constant) | 73.2166 | 1.6498 | | 44.378 | 0.0000 |

Table IV. COMPRS as the dependent variable.

Variable entered on step number 1. DIFFR ($R = .2374$; $R^2 = .0564$)

Variable entered on step number 2. Male-Male ($R = .3136$; $R^2 = .0983$)

Analysis of Variance

| | DF | Sum of Squares | Mean Square | F | SIGNIF |
|---|---|---|---|---|---|
| Regression | 2 | 7661.9668 | 3830.9834 | 8.7256 | .0003 |
| Residual | 160 | 70247.4810 | 439.0467 | | |

Variables in the Equation

| Variable | B | SE B | BETA | T | SIG T |
|---|---|---|---|---|---|
| DIFFR | 4.1798 | 1.3213 | 0.2374 | 3.163 | 0.0019 |
| Male-Male | -9.7151 | 3.5589 | -0.2049 | -2.730 | 0.0070 |
| (Constant) | 126.6907 | 1.9711 | | 64.273 | 0.0000 |

Table V. Correlation between dependent and independent variables.

| Independent Variables | Dependent Variables | | |
|---|---|---|---|
| | ERS | CRS | COMPRS |
| PreCSRI | -0.107 | 0.036 | -0.131 |
| PostCORI | 0.068 | 0.143 | 0.165 |
| DIFFR | 0.140 | 0.144 | 0.237 |
| Pre-Post | 0.040 | 0.177 | 0.160 |
| Sex | 0.035 | 0.031 | -0.013 |
| SEXDYAD | 0.169 | 0.038 | 0.194 |
| Fem-Fem | -0.065 | 0.086 | -0.005 |
| Fem-Male | 0.106 | -0.122 | 0.021 |
| Male-Male | -0.124 | -0.120 | -0.205 |
| Male-Fem | -0.095 | 0.169 | 0.209 |